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ABSTRACT

Based on a 1978 symposium sponsored by National Association for Foreign Student Affairs (NAFSA), information is presented on foreign students in the United States, the case of Saudi Arabian government-sponsored students in the U.S., the U.S. response to the needs of foreign students and their countries, and unresolved issues. The profile of foreign students studying in the United States covers where students come from, fields of study, levels of study, sources of financial support, and new dimensions of international exchange. For the Saudis, the three most popular fields of study are education, engineering, and business management. Difficulties regarding admission of Saudi students to U.S. institutions and the limited higher education opportunities in Saudi Arabia are addressed. The U.S. response is discussed in terms of the roles of the federal and state governments in supporting international educational exchange, the roles of institutions and faculty, teaching assistantships for foreign students, curriculum flexibility, and the case of the engineering curricula in the United States. Unresolved issues include accreditation practices as they relate to programs involving large numbers of foreign students, practical training opportunities for foreign students, problems in reentry/transition to the home country, and the loss of human resources when foreign students do not return home. Recommendations, data on foreign students, and references are included. (SW)

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235,000 FOREIGN STUDENTS IN U.S. COLLEGES & UNIVERSITIES: IMPACT & RESPONSE

A commentary on the NAFSA symposium presented Sept. 25-26, 1978, at the University of Maryland

by

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ACKNOWLEDGEMENT

Like most activities sponsored by the National Association for Foreign Student Affairs, this symposium was the product of a great deal of volunteered time and effort. The strong belief by a number of NAFSA members that the association must develop stronger ties with the faculty who deal with increasing numbers of foreign students prompted a request to the association's Field Service Steering Committee in July, 1977, to sponsor such a meeting. In January, 1978, that committee approved funding for the symposium and designated a planning committee to implement the project. Members of the planning committee, chaired by Eugene L. Clubine, were August G. Benson, Mary Ann G. Hood, Kenneth A. Rogers and James S. Worley.

The planning committee's work was facilitated by advice and counsel from Sam McKee of the National Academy of Sciences, Gordon Bixler of the American Chemical Society, and Helen Strow of the American Home Economics Association. Appreciation also is due to a number of people who willingly shared their experience and knowledge—in particular, Maurice Albertson, professor of engineering at Colorado State University; Fred Bateman, professor of business administration at the University of Indiana; Robert Bratsed, professor of chemistry at the University of Minnesota; Wallace Edgerton, president of the Institute of International Education; Wade Ellis, associate dean emeritus of the University of Michigan Graduate School; John Gerletti, director, International Public Administration Center of the University of Southern California; Talal Hafiz, program director at the Saudi Arabian Educational Mission; Hugh M. Jenkins, executive vice president of NAFSA;

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DEDICATION

NAFSA is fortunate to have dedicated members whose persistence and enthusiasm bring good ideas to fruition. Eugene Clubine was such a NAFSA member. When presented with the idea to hold this symposium, Gene brought his usual determination and encouragement to its planning and accomplishment. The news of his death on the eve of the symposium caused us first to consider canceling the event. But the memory of his drive and perseverance made us realize that this is not what Gene would have wanted. With the benefit of his careful planning, the symposium took place on schedule and with great success.

The report of this meeting is dedicated to Eugene L. Clubine, past president of NAFSA and chairman of the A.I.D. Projects Steering Committee and Faculty Involvement Project Committee at the time of his death. Let this report stand as a memorial to a fine colleague, friend and vital member of the National Association for Foreign Student Affairs.

Hugh M. Jenkins
Executive Vice President
NAFSA

INTRODUCTION

The extraordinary growth of higher education around the world is one of the clear benchmarks of social progress in the twentieth century. Worldwide, there are currently 33 million students in tertiary level education programs, and between 800,000 and 900,000 of the 33 million are studying outside their home countries. Foreign students began coming to the United States in significant numbers in the late nineteenth century. By 1904, according to U.S. government records, there were over 2,500 foreign students, and just a few years later, that number had nearly doubled to 4,856. In 1921, the Institute of International Education (founded in 1919) conducted the first census of foreign students in this country and found a total of 6,740. By 1930, the number reached 10,000. Between 1930 and the end of World War II, many nations exchanged students in order to promote international understanding and stability. During the years 1946-49, the number of foreign students in the United States increased from 10,000 to 25,400. In addition, the establishment of the United Nations Education, Scientific and Cultural Organization (UNESCO) and the passage in 1946 of the Fulbright Act marked the advent of an era of expanded international educational interchange. Until recently, foreign and domestic student enrollments grew concurrently, with foreign students accounting for a little less than two per cent of the total student population in the United States. During the past six years, however, the number of foreign students in the United States has jumped by one-third. Given the decline in domestic enrollments in the U.S., foreign students probably will come to constitute a larger proportion of the overall student population in

this country.

Until the second quarter of the twentieth century, study abroad in the United States was an individual enterprise largely reserved for members of the elite from European countries. Recently, and especially since World War II, the foreign student population has changed both in number and composition. Today's foreign student population in the U.S. includes young people from a large number of countries, most notably from developing countries. The dramatic growth in the number of these students reflects a post-war shift in the make-up of the international system. Such entities as the European Common Market and large multinational corporations now rival government establishments as major actors in international relations. More importantly, developing countries with natural resources have assumed a dominant international role corresponding to the role heretofore played by industrialized countries. The economic needs of these organizations and of individual nations call for professionally trained and educated populations. Consequently, governmental and non-governmental programs for study abroad have grown to meet these new demands. While the number of foreign students from industrialized countries is likely to remain steady, the number of students from developing countries coming to the U.S. for post-secondary study will probably increase in years ahead. If this trend continues, national development may take precedence over individual development as the primary goal of foreign study.

Symposium's Implications

The growth in foreign student enrollments at U.S. colleges and universities has broad implications for the educational community. The National Association for Foreign Student Affairs (NAFSA) traditionally has concentrated on meeting the extracurricular needs of foreign students—admissions, orientation, English as a second language and personal advising. The presence of many more foreign students, especially those from developing countries, calls for more attention to their particular educational

needs and for the cooperation of faculty and professional educational organizations in a systematic effort to address them. As a first step in this direction, on September 25-26, 1978, NAFSA convened a symposium, "235,000 Foreign Students in U.S. Colleges and Universities—Impact and Response" at the University of Maryland. Participants included representatives of NAFSA and professional associations in the fields of agriculture, business administration, chemistry, engineering, home economics, public administration, science and teacher education.

The symposium marked the first time that members of diverse professional groups came together to discuss the international dimensions of their activities, foreign students, training for development and NAFSA's special concern—the accommodation of foreign students in U.S. colleges and universities. The purpose of the symposium was to explore areas of common concern to NAFSA and to the organizations representing disciplines in which heavy concentrations of foreign students are found. The goal was to provide an opportunity for the participating organizations to compare experiences, share perceptions and catalogue the resources available for educational interchange in the United States.

CHAPTER I

PROFILE OF FOREIGN STUDENTS IN THE UNITED STATES

Continuity and change are facets of the history of foreign students in the United States over the past 30 years. Continuity is reflected in the fact that the percentage of foreign students, with respect to the total student population in higher education, has remained relatively steady, though it has shown a slight upward trend: from 1.5 per cent of the total enrollment in 1960-61 to 2.1 per cent in 1977-78.[1] Continuity also is seen in the sources of financial support for students who come to this country to study, and it is seen in the fairly steady ratio between graduate and undergraduate foreign students. Moreover, the geographical, historical and political affinities which drew foreign students to the U.S. still continue to exert considerable influence on the choice of the U.S. as the place to study.

Change, on the other hand, is most obvious in the absolute number of foreign students who come to the United States for graduate or undergraduate study.[2] Further, many of the countries (generally not developing countries) which were the exporters of large numbers of students send proportionately fewer today than they once did; the majority of foreign students now come from third world or developing countries.

Where students come from

In the academic year 1977-78, 235,509 foreign students were reported as studying in the United States. Over the years, the vast majority of these foreign students have come from South and East Asia, with the greatest numbers of students com-

[1] See Table, Total Higher Education Enrollment in the U.S., Appendix A
[2] See Table, Foreign Students 1954-55-1977-78, Appendix B

ing from the Republic of China, Hong Kong, India and Japan. As can be seen in the following, countries on the Asian continent continue to supply the largest numbers of foreign students, with a significant proportion now coming from West Asian countries, particulary Iran.[3]

Though the number of South and East Asian students has shown an increase in the past 20 years, there have been significant changes in the list of countries sending the most foreign students. For example, in the 1960's, India was the second leading exporter of foreign students, with Canada leading the list. Since the early 1970's, the number of students from India has remained fairly steady, though as a proportion of the total foreign student population, the percentage has dropped rather sharply. In 1964-65, 6,813 or 8.3 per cent of foreign students were from India; in 1970-71, the figures were 12,532 or 8.6 per cent; in 1975-76, 9,630 students or 5.4 per cent of the total; and in 1977-78, there were 9,080 Indian students in the U.S., or 3.9 per cent of the total. The same trend toward stability in absolute numbers of students from particular countries can be seen by looking at the figures for the Republic of China, Korea and Thailand; the number of students from each of these countries has remained relatively constant over the past six or seven years.

Though India remains in the top ten countries of origin of foreign students in the United States, there have been dramatic changes in that list.[4] The most recent census of foreign students, as reported in *Open Doors 1977-78*,[5] indicates that Iran, Nigeria, Venezuela and Saudi Arabia[6] are now among the top ten exporters of foreign students to the U.S. Currently, Iran has over 36,000 students in the United States (over 15 per cent of the total foreign student population); Nigeria,

[3]Also see Table, "Origin of foreign students by continental subregions," Appendix C

[4]See Table, Countries of Origin of Most Foreign Students in the U.S., Appendix D

[5]Julian, Alfred C. and Slattery, Robert E., Ed. *Open Doors 1977-78*. New York: Institute of International Education, 1979.

[6]Members of the Organization of Petroleum Exporting Countries. See Table, Foreign Students from Organization of Petroleum Exporting Countries, Appendix E

Distribution of foreign students by continent

	1955-6		1965-6		1975-6		1976-7		1977-8	
	No.	%	No.	%	No.	%	No.	%	No.	%
Africa	1,231	3.4	6,896	8.3	25,290	14.1	25,860	12.7	29,560	12.6
Asia	15,864	43.5	40,266	48.8	97,130	54.2	108,510	53.5	130,970	55.6
South and East Asia	11,202	30.7	29,049	35.2	64,540	36.0	70,020	34.5	19,310	8.2
South West Asia	4,662	12.8	11,217	13.6	32,590	18.2	38,490	19.0	38,840	16.5
Europe	5,502	15.1	10,226	12.4	14,400	8.1	16,700	8.2	12,920	5.5
Latin America	8,478	23.2	13,998	17.0	29,820	16.7	37,240	18.4	3,810	1.6
North America	5,042	13.8	9,851	11.9	9,720	5.4	11,420	5.6		
Oceania	353	1.0	1,325	1.6	2,740	1.5	3,150	1.6		

NOTE. Table from *OPEN DOORS 1977-78*, Institute of International Education, page 14, table 17.

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13,650; Venezuela, 7,420 and Saudi Arabia, 6,560. These numbers represent, for each of these countries, a three- to four-fold increase in the 1970's.

The increase in the number of students from OPEC countries and from other developing, as well as developed, countries is not a short-term phenomenon. Saudi Arabia continues to send increasing numbers of students to the United States, and as many as half of the Saudi students may stay on for graduate study. Brazil has increased its number of students here by more than 30 per cent in the past three years, and it is expected that the number of Brazilian students will continue to increase. The number of Indonesian students has increased by 47 per cent during the last three years and may do the same in the next five years. The yen-dollar exchange rate is likely to produce an incentive for more Japanese students to seek an education in the United States. The emerging student exchange plans between the U.S. and the Peoples' Republic of China will eventually bring several thousand Chinese here.

Fields of study

Foreign students continue to gravitate to several key fields of study, though there have been some significant changes over the past 20 years.[9] To a great extent, manpower needs of home countries have dictated students' choices. In 1956, of the 36,494 foreign students recorded, 22 per cent were enrolled in the general field of engineering. Twenty years later, 24.1 per cent of the total 203,068 foreign students were studying engineering. At present, there are 67,870 or 28.8 per cent of foreign students in engineering programs.

Business and management, including business administration, is the second most popular field of study for foreign students. In 1976, about 17 per cent of foreign students were studying business; and, at present, some 39,540 or 16.8 per cent of foreign students are enrolled in this field of study. This is in sharp contrast to the 9.0 per

[9]See Tables, Fields of Study, and Distribution by Fields of Study, Appendices G and H

cent majoring in business and management in 1956. Foreign majors in mathematics and computer science also have increased significantly. In 1956, 1.3 per cent or 433 foreign students were concentrated in this field; by 1976, the number had increased to 9,610 or 4.7 per cent. Currently, the number of majors in mathematics and computer science is 12,300 or 5.3 per cent.

Education, the social sciences, natural and life sciences, and agriculture continue to attract approximately the same percentage of foreign students, with education evidencing a slight but steady increase in the period 1956-1976, while the other disciplines have remained relatively stable in their share of the foreign student population.

Levels of study

The balance between graduate and undergraduate foreign students has shown some interesting shifts over the last 20 years. In 1955-56, 42.1 per cent or 15,033 of the foreign students in the United States were studying at the graduate level; 10 years later, the proportion of graduate students had significantly increased to 52.6 per cent or 42,945. By 1976-77, the percentage of graduate students had declined to 47.0 per cent or 95,350. The most recent figures suggest that the decline will continue, at least for awhile: some 102,750 or 43.6 per cent of foreign students are enrolled in graduate programs, and the remainder are in four-year, two-year or non-degree programs.[10]

Generally speaking, the educational community in the U.S. considers it more appropriate for a student to complete his or her basic education in the home country and, then, to go abroad for graduate study. However, the needs of developing countries and the opportunities in U.S. institutions, especially in certain fields, combine to maintain and, recently, to increase the steady flow of undergraduate foreign students to this country.

It is worth noting, nevertheless, that figures

[10]It is assumed that this balance in favor of undergraduate level study is the result not only of the massive influx of students from Iran and Nigeria, but also of the growth of secondary education in developing countries, and the lack of tertiary institutions in both developed and developing countries.

published in February, 1978, by the National Academy of Sciences[11] show that the number of foreign recipients of U.S. doctoral degrees is growing both absolutely and proportionately. Of the 31,672 doctoral degrees awarded in 1977 in all fields in the U.S., 15.2 per cent were granted to non-citizens with temporary (non-immigrant) visas. In the field of engineering, of the 2,641 doctoral degrees granted, 1,098 or 41.6 per cent were awarded to foreign students or scholars. In mathematics, foreign nationals earned 23.4 per cent of the doctorates awarded in 1977, and 25.6 per cent of those awarded in physics and astronomy.

Sources of financial support

In 1974, the National Association for Foreign Student Affairs published the *Study of Foreign Student Employment and Financial Resources.*[12] The investigators, John E. Stecklein and Han C. Liu, compiled data from 36 institutions, mostly state-supported universities, and 868 foreign students at those institutions, on the sources of financial support for foreign student education. Based on their findings, Stecklein and Liu reached the following conclusions:

(1) primary support for about half (47 per cent or 58,804) of the 125,116 foreign students attending U.S. colleges and universities in 1973-1974 came from private sources outside the United States;

and (2) represented an estimated input of $320,000,000 for the U.S. economy.

In that academic year, U.S. institutional aid in the form of loans, scholarships, assistantships and fellowships provided the second major source of support for about 12 per cent or 15,014 foreign students, the value of which was estimated at over $100,000,000. Private foundations, corporations and foreign governments provided aid to an estimated eight per cent or 10,000 foreign students in the U.S., while the U.S. government provided support for about six per cent

[11] *Summary Report 1977: Doctoral Recipients From United States Universities.* The National Research Council. The National Academy of Sciences, 1978.

[12] *Study of Foreign Student Employment and Financial Resources.* NAFSA. Washington, D.C. 1974.

or 7,500 in 1973-74.

More recent investigations have not been as detailed as the 1974 study, but available data indicate that well over half (approximately 118,000) of the foreign students now in the U.S. are supported mainly by personal family funds. For about 10 per cent or 23,500 foreign students, the primary source of support comes from the U.S. college or university in the form of assistantships, fellowships or scholarships. About 15 per cent or 35,300 foreign students are funded by their governments, and less than five per cent or about 11,000 foreign students are supported by money from the U.S. government or private sponsors in the United States.

While foreign government support for education in the United States has grown considerably since 1973-1974, private sources outside the United States and colleges and universities in the United States continue to be major factors in the support of foreign students.

New dimensions in educational interchange

The rapid growth in our foreign student population has brought with it a number of problems which we are only now beginning to deal with. The most compelling of these problems may be the number of foreign students in junior and community colleges and the number of foreign students who bring their spouses and families to the United States.

Foreign students in junior and community colleges pose a two-sided problem. On the one hand, many of the two-year institutions which accept foreign students are small and inexperienced. They may accept large blocks of students from single countries and then find themselves ill-equipped to cope with the cultural differences these students bring with them and the adjustment problems they undergo. On the other hand, many foreign students who are unable to gain admission directly into four-year institutions use the channel of two-year colleges, as well as English language programs, to by-pass a regular admissions process. Moreover, the open-door policies of many two-year colleges offer easy access into the U.S. education system.

It is not known how many of the foreign students in the United States are married, but we do know that the percentage is much greater than it was twenty or ten or even five years ago. Many more students now seem to want to bring their spouses and children with them, or they may have (more) children while they are here. The ramifications should be obvious, and certainly they are significant: spouses generally cannot work, there are more financial pressures on the student, and frequently the spouses, especially wives, may need English instruction if they are to avoid a stay in this country in which isolation may be the overwhelming factor. Further, children's expenses of day care and medical care are costly and, in a number of communities, public school systems either charge, or are seeking to charge, special tuition fees. All of these family concerns place additional strain on the foreign students themselves, as well as on the communities where large number of foreign students are to be found.

CHAPTER 2

EDUCATION AS A CONSUMER PRODUCT

In the opinion of some, education is one of the United States' most valuable consumer and export products. In fact, foreign countries, especially governments and other sponsors in developing countries interested in educating a modern labor force, see American education in precisely this way. With many more students now coming from Asia, Latin America and the Middle East, there are new demands and needs.

Many sponsors have specific expectations of the students and of the U.S. educational system, and, on the whole, their demands are for technical training which they perceive as necessary for economic development. But these expectations need to be elaborated, for what the consumer-sponsor has in mind may not coincide with normal course and program offerings. A case in point is the exchange program developed by the School of Business, Indiana University, with a university in Yugoslavia: it was discovered that the Yugoslavs were interested only in "technical experts"—accountants, computer technicians, production specialists and specialists in internal organization. Instruction in such traditional and theoretical areas as anti-trust were considered "ideological" and unnecessary.

Saudi Case

In the course of the symposium, a representative of the Saudi Arabian Education Mission described the Saudi development plan, which depends heavily on the training of manpower in almost every sector of the economy; education is considered the means to achieve this goal. Out of a development plan budget of $142 billion, the Saudi government has earmarked $21.1 million

for education. The main interest of the Saudi government is in upgrading the country's own labor force to reduce dependence on foreign labor.

At present, there are more than 6,000 government-sponsored Saudi students in the United States; 65 per cent are in undergraduate programs, 10 per cent are in master's programs, five per cent are in doctoral programs and 15 per cent are unspecified. For the Saudis, the three most popular fields of study are education, engineering and business management. Most Phd's will return and teach in Saudi Arabia, and most MA's will teach and perhaps return to the U.S. at a later time for Phd's. It is anticipated that enrollments of Saudis in U.S. institutions will continue to expand for some time, since there are 65,000 high school graduates in Saudi Arabia annually, but only 26,000 places in universities open to them. Thus, most Saudi students will have to pursue their education outside the country.

Like many other foreign sponsors, the Saudi government has had to concern itself with a whole range of problems involved in study abroad. In particular, it is concerned about the problems that their students face in seeking admission to U.S. institutions, and it fears that some of its best students may be prevented from gaining an education. These fears have come about for several reasons. First, the Saudis recognize that the standardized entrance examination designed for U.S. students pose a problem for foreign students. Saudi government officials say that these tests are 'culture-bound,' and they would like to see some relaxation of requirements to assure that good students are not denied admission for the wrong reasons. Second, many good students find the strains of adjusting to contemporary American culture extremely difficult. More and better efforts to orient students to life in the U.S. should be included in English language training programs to ease the transition. Finally, teaching experience in a U.S. institution and on-the-job training with U.S. businesses are pressing needs for the Saudis; for such experience, Saudi students can gain recognition when seeking employment at home.

CHAPTER 3

U.S. RESPONSE

All indicators point to an ever-increasing number of foreign students and scholars who will look for education outside of their home countries. Worldwide interdependence will demand the expansion of the international dimension of all aspects of education—personnel exchange, study abroad and language study. In addition to these international factors, the U.S. faces a decline in the domestic population of college-age youth. The time has come, therefore, for a planned approach to the matching of these interests of foreign students and those of educational institutions in the United States.

In many ways, reaction to the influx of foreign students has lacked coordination and long-term planning. The presence of 235,000 foreign students in U.S. colleges and universities is a development that should be considered in terms of its implications rather than its dimensions. Too often, educators have tended to think of the increase of foreign students as a temporary enrollment boost to individual campuses rather than as a permanent feature of educational communities. And too often the response to large numbers of foreign students has been improvised or temporary. What is required is a positive and rationalized approach that takes into account the long-range implications in the growth of our foreign student population. What also is required is the recognition that international educational interchange is an integral part of the total educational experience and an important, continuing responsibility of educational institutions.

Unfortunately, these demands have arisen at a time when many universities are retrenching or at least stabilizing both programs and budgets, and when both the federal and state governments

are being pressured to reduce expenditures.

Role of government

The attitude of federal and state governments toward international education has depended to a large extent on the balance between the international and domestic concerns of the U.S. Since the enactment of the Fulbright Act in 1946, the federal government has had a genuine interest in developing international educational interchange. This interest was reaffirmed with the enactment of the Mutual Educational and Cultural Exchange Act of 1961 (the Fulbright-Hays Act), the specific purpose of which was "to increase mutual understanding between the people of the United States and the people of other countries by means of educational and cultural exchange." This bill mandates support "for the purpose of assisting foreign students in making the best use of their opportunities while attending colleges and universities in the United States." Funds have been provided to a number of private organizations for a wide variety of programs and services designed to develop and improve international educational interchange and enhance the experience of foreign students.

The International Communication Agency, which combined the activities of the former Bureau of Educational and Cultural Affairs and the United States Information Agency in a 1978 reorganization, has maintained this commitment. In a statement to Congress, President Carter noted that one of the most important principles which guided the reorganization was the fact that "maintaining the integrity of the educational and cultural exchange programs is imperative." To ensure this, the reorganization included the formation of an Associate Directorate for Educational and Cultural Affairs whose responsibilities were noted by Director John E. Reinhardt at ICA's inaugural ceremonies. First among these responsibilities was the "upgrading of our work with private institutions in this country and abroad." Therefore, by both presidential design and actual implementation, continuing governmental commitment to international educational activities, including programs and ser-

vices for foreign students on U.S. campuses, would seem to be assured.

While announced government support for foreign student programs has held reasonably steady, real dollar support has diminished. Moreover, there has been no initiative, in the last 30 years, comparable to the Fulbright Act of 1946—in spite of the fact that the numbers of foreign students have increased enormously. All pronouncements to the contrary, unless there is adequate funding, there is no real support, nor is there real public support for international educational exchange.

At the state level, recent fiscal crises have led to reductions in scholarships and financial assistance offered to foreign students and, in some cases, to the decision that foreign students should pay out-of-state fees. In a few instances, state legislatures have questioned the justification for enrolling foreign students in state-supported institutions; and in others, there is an incipient move to charge foreign students the "full cost of education."

With some states facing dwindling resources, the priority of international education is an issue which will continue to catch the attention of state legislatures. State legislators may view foreign students either as a means of halting declining campus enrollments or, with or without justification, they may view them as too costly. Nevertheless, there is sufficient evidence, in terms of economic and intangible benefits, to suggest that it is in the interest of all states to continue to receive foreign students. In an increasingly interdependent world, global cooperation, even at the state level, is a necessity. In most states, there are businesses which have strong international interests and ties, and that is likely to increase as time passes. At the local level, wherever there are foreign students in the community, the impact on the economy is significant. Continuing studies by the Indiana University School of Business show that in addition to the $12 to $15 million which 1,700 foreign students contribute to the local economy in Bloomington, statewide benefits also are evi-

dent. For example, foreign alumni generate a great deal of trade with Indiana, and foreign graduates in agriculture turn back to Indiana when they purchase farm equipment.

It is encouraging to note that in some states, because of the efforts of those committed to international educational interchange, there has been a reaffirmation of the value of educational relations with other countries and of foreign students as essential to a genuine university community.

Role of institutions

Enthusiasm and idealism were prevailing attitudes toward international educational interchange in the late 1940's and 1950's. Much of the early enthusiasm was supplemented by governmental and foundation support. The late 1960's, marked by increasing unrest among American students, produced a growing indifference, of sorts, toward foreign students. More recently, this atmosphere has changed. There has been a "rediscovery" of foreign students in light of declining domestic enrollments at many U.S. universities and colleges.

Though each of the 3,000 colleges and universities will continue to determine its own policies and practices, a large proportion of the foreign student population in the United States is concentrated in a few major institutions having policies which define international education as a fundamental part of a general education. For these institutions and some smaller colleges, the commitment to international education includes the exchange of students and scholars, the development of study abroad opportunities for U.S. students, and the creation of international interinstitutional programs with colleges and universities in different parts of the world. For others, however, the presence of foreign students is accepted, but not sought.

Obviously, then, institutions justify the presence of foreign students in different terms. Some seek to foster an international community through the presence of foreign students and scholars, while others see foreign students primarily in terms of maintaining enrollments and

propping up individual departments and still others are indifferent.

The number of foreign students coming to the United States will continue to increase; and, as the numbers grow, institutions will be required to respond. That response demands new perspectives and broader support for an interdependent higher education. Generally, those who govern our colleges and universities are unable, under the pressures they normally face, to devote appropriate and exclusive attention to these matters. But the increasing involvement of faculty in institutional governance suggests an opportunity for a revitalized approach to international educational interchange.

Role of faculty

Most institutions of higher education in the United States remain essentially national in character, although a number of institutions have made a clear commitment to international educational interchange. The positive internationalization of student bodies, curricula and disciplines obviously depends on the active involvement of faculty, but increased faculty involvement rests, in part, on the kinds of incentives which will help promote international activity. In a great many instances, neither institutions nor professional societies seem willing to extend appropriate recognition to faculty members for engaging in such activities as will further the cause of international educational exchange, whether those activities lie in the area of academic advisement of foreign students, teaching their subjects in international contex , or teaching and research abroad.

Nevertheless, there is much that the faculty can do to improve the climate for foreign students. Faculty are the critical link between support services for students, both U.S. and foreign, and the administrative offices where policy decisions are made. Additionally, there is the prospect for increased faculty responsibility in the overall governance, and it is in this key role that faculty can exert a positive response in institutional policy matters related to foreign students. They can also encourage greater receptiv-

ity toward foreign students.

Faculty also have a key role to play within their departments and within their disciplines, with respect to foreign students. They can assume leadership in dealing with such matters as departmental policy on the admission of foreign students, graduate and undergraduate, orientation and advisement, curricular flexibility, etc. And where departmental policies are lacking or are in need of review, faculty can take the lead in urging the kind of investigation that is described in *An Inquiry into Departmental Policies and Practices.*[13] This publication includes a checklist of issues and questions related to institutional policy, departmental policy, admissions, financial aid, English proficiency and special services and programs for foreign students.

It is clear that the massive numbers of foreign students now at U.S. universities and the changing composition of the foreign student population place new educational demands not only on institutions, but on faculty as well. It is just as clear that many of these demands require immediate faculty attention. Perhaps the most pressing demand is that for curricular modification to insure that U.S. education is relevant to the needs of the developing nations from which so many of our foreign students come.

Curriculum flexibility

In most U.S. universities, it is assumed that foreign students should follow the same curriculum as American students; however, there is reason to believe that U.S. curricula are not wholly appropriate for foreign students. That is, much of the training/education which a third world student gains in this country is likely to have little relevance to the reality facing him on his return home. This may be due, in part, to the fact that institutional and faculty interests do not always match those of foreign students and their sponsors; and, at present, only occasionally do the training needs of foreign students coincide with the research or teaching interests of U.S.

[13]Published by the National Association for Foreign Student Affairs, April, 1972. See also, Donald N. Nelson, *Crucial Issues in Foreign Student Education* (Washington, D.C.: NAFSA, 1975).

faculty. Moreover, many of the universities which actively seek government contracts to educate foreign students have faculties who lack a broad understanding of foreign student needs.

Who bears primary responsibility for educational relevance? The answer, of course, is that much of this rests with the faculty and with the professional societies, and in this connection, there are some initiatives currently underway.

In fall 1978, NAFSA and the Council of Graduate Schools (CGS), with the support of the Agency for International Development (A.I.D.), undertook an informal survey of faculty members at 93 graduate institutions in the U.S., including the 83 graduate schools which have the largest foreign student enrollments. The purpose of the survey was to determine how institutions have modified curricula to meet foreign student needs and to determine faculty attitudes toward curricular modification.[14]

With additional support from NAFSA's contract with A.I.D., a nationwide study of the met and unmet needs of foreign students was begun in March, 1979. This investigation, which will focus on A.I.D.-sponsored students specifically, will identify needs of students from developing countries. The results will be available in early 1980.

Currently, the American Agricultural Economics Association is surveying foreign graduates (from developing countries) in agricultural economics and their employers to determine the relevance of their U.S. graduate training to their professional activities in home countries, and to determine what further training may be needed. The results of this survey will be available in mid-1979.

While these projects will result in far more information than is currently available, much more needs to be done. Institutions and professional associations should examine further the question of educational relevance in international development.

[14]Baron, Marvin. "The Relevance of U.S. Graduate Programs to Foreign Students from Developing Countries." NAFSA, Washington, D.C., 1979.

Appropriate technology: engineering—a case study

Engineering is, by far, the most popular field of study for foreign students; 28.8 per cent of all foreign students are majoring in the various programs in engineering. Unfortunately, for many foreign students, standard engineering curricula are not suited to their needs. The trend among U.S. students has been to specialize in the most advanced engineering technologies. As a result, U.S. universities have dropped from their curricula many of the less sophisticated types of technologies that would have relevance for developing countries, and, in fact, relevance for the United States as energy becomes scarcer and more costly. Wood, railway, masonry and hydropower technologies have been dropped from study programs. (It is noteworthy that it has been small-scale hydropower which has furnished the major portion of China's energy in the past 20 years.)

Many more engineers should be educated for the broad spectrum of technology, particularly if they are foreign engineers whose countries' immediate needs cannot be met by the most advanced technology. Courses on "appropriate technology" also should be included in engineering programs. What technology is appropriate for a given cultural, economic, social and political situation? At most of our colleges and universities, foreign students study problems from the point of view of high U.S. technology, and they work with the aid of computers, and other electronic devices and energy-intensive equipment. What they should be taught is how to cope with technological needs at home, how to work without the aid of sophisticated equipment, and how to adapt what they are taught here.

Encouraging foreign students to undertake research and choose dissertation topics relevant to work situations in their home countries will help orient students toward home. At present, foreign students are enlisted as members of research teams working on technologies and problems largely irrelevant to their home countries. It is likely that students educated in this way will

either try to stay in the United States, or they will face serious professional obstacles at home. Engineering educators must face the fact that they should not be training foreign students for careers in the U.S. Arranging research in home countries and on issues of interest to developing countries is one way to deal with this problem. Planning and cooperation are required, but the results justify the flexibility demanded.

Foreign teaching assistants

The increasing number of foreign graduate students in many universities has led to a dependence on foreign students to fill teaching assistant positions, particularly in certain departments. Ideally, this situation offers opportunities for both U.S. students and foreign graduate students. It enables foreign students to help pay for their education and gain valuable job training, and, at the same time, U.S. students benefit from the contact with people from other cultures.

However, both U.S. students and foreign graduate students encounter problems: some foreign-born teaching assistants do not share U.S. attitudes toward teaching, and they may have language problems which inhibit communication with the students they are teaching. If the teaching assistantship is to be a rewarding and productive experience for the foreign graduate student and for the classes he teaches, sufficient guidance and training must be provided by the department and by the faculty with whom the graduate student is working. The necessity for such guidance has prompted the University of Minnesota to develop a model training program for foreign teaching assistants. Pending final approval from ICA, NAFSA will provide funds for the program which is scheduled to begin in the fall of 1979. This program, with a special focus on cultural variables, mannerisms, attitudes and appropriate teacher-student relationships, will train foreign graduate students in effective public speaking and teaching methods. The project should yield a model program which can be transferred to other institutions for their use and/or adaptation.

CHAPTER 4

UNRESOLVED ISSUES

In addition to the problems implicit in much of the foregoing discussion, there are other issues which remain unresolved, but notable among these issues are such matters as accreditation practices (as they relate to programs involving large numbers of foreign students), practical training opportunities for foreign students, problems in re-entry/transition to the home country and the phenomenon of "brain drain" when foreign students do not return home.

Accreditation

Generally speaking, much of what may be regarded as curricular inflexibility is due, in part at least, to the fact that various accrediting agencies carry great weight with respect to specific curricula in a number of disciplines. The issue, so far as international educational exchange is concerned, is not whether this should be the case; rather, it is a question of whether, within the constraints of accrediting criteria, there is not the possibility of greater flexibility than often seems apparent. Additionally, there may exist some uncertainty in individual institutions as to the extent to which accredited programs/curricula might be modified. Thus, while it might be possible to tailor academic programs more specifically to the needs/goals of students from developing countries, there is little likelihood that it will occur on the scale required without concerted effort by accrediting agencies, by professional organizations and, particularly, by the faculty.

Practical training

One of the most pressing needs for many foreign students, both graduate and undergradu-

ate, is the opportunity for on-the-job experience—the practical application of their academic training. As the Saudis and many others know, this type of practical experience merits additional recognition in the home country, and it contributes to the foreign student's total educational experience in the United States. Unfortunately, the practical training experience is available to too few foreign students. Several factors have contributed to this situation: the Immigration and Naturalization Service regulations which govern practical training seem to many to be too restrictive; the application procedures for practical training often seem unduly cumbersome to both the institution and to the foreign student; faculty advisers and foreign students are often frustrated by INS delays in processing applications for practical training; very often, the foreign student who wishes to undertake practical training finds it difficult to secure appropriate work; and employers, recognizing the investment required on their parts, are often reluctant to offer practical training/employment to foreign students for periods of 18 months or less.

Returning home/keeping in touch

For many foreign students, the return home and re-entry into the mainstreams of their own cultures is a traumatic experience. Most practically, it is a traumatic experience because the foreign student may only then discover that his country, like many developing countries, lacks the infrastructure to support the academic and professional careers which his U.S. training normally anticipates. He finds that he must be prepared not only to be a professional, but he must also help create the infrastructure in his own country to support professional activities. He must also be able to keep up with research and developments in his field and, at the same time, contribute to the development of his country's economy. On a more personal level, the foreign student may find that his long stay in this country (amounting sometimes to six, seven or even ten years) has, in effect, made him a stranger to his own country; for many foreign students, that is a shocking discovery. This reverse culture shock

may be intensified by a sense of isolation: isolation from the institution and department and faculty which, for so long, were the main focus of his concerns; and isolation from the ideas which he had, perhaps, begun to take for granted.

Universities and colleges in the United States have succeeded in preparing foreign students for professional careers according to our own standards, but they have not been notably successful in preparing these students to return home.

Phenomenon of "brain drain"

There is no doubt that not all foreign students return home, and if those students are from developing countries, the loss to those countries of trained and skilled human resources is immeasurable.[15] Although research has provided some insights into the problem, fundamental questions on the rates and the economics of migration and their consequent effects on the home country are still left unanswered. With the exception of literature reviews, most research into "brain drain" dates back to the early 1970's, and focuses on years prior to the rapid increase in the numbers of foreign students in the U.S.

Nevertheless, some data on the personal factors which influence the decisions of foreign students to return or not to return are available. Research indicates that married students have a greater tendency to return home than single students, and that the higher the academic degree obtained by the student, the less likely he or she is to go home. There is also evidence that the likelihood of return home is greater among students who are sponsored by their home governments, in contrast to those who are self-sponsored or supported by non-national sources. There is also agreement that the probability of return home decreases as the length of stay in the U.S. extends.

Additionally, the question of the relevance of U.S. education for foreign students has been investigated by a number of authors. Several studies indicate that our educational programs may not be directly applicable to the technologi-

[15]See Table, The Reverse Transfer of Technology: the 'Brain Drain,' 1960-1972, Appendix I.

cal needs of the countries from which many of our foreign students come. While U.S. colleges and universities certainly do not bear sole responsibility for the "brain drain" problem, there is much that they can do to help combat the problem. They can encourage educational programs which are more clearly appropriate to the needs of developing countries; and they can, if they will, encourage foreign students to concentrate some of their research efforts and energies on solving the problems of their home countries.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Education is one of America's most valuable and marketable products. Nothing can compare to its contribution toward progress in developing countries, because education is a major prerequisite for national development. In the past 30 years, we have seen the number of foreign students grow from approximately 30,000 to more than 235,000. Today, the United States has in its midst nearly a quarter million young people from all around the world. Many of them are potential leaders in their countries, and they will assume positions of power and influence within the near future; many others will contribute significantly to the development and general progress of their own countries. All of them, though, offer us—students, faculty, colleges, universities and local communities—a broader perspective on the world.

NAFSA's experience of over 30 years have produced a sophistication and placed at the disposal of U.S. educators a body of knowledge in international educational interchange. The solutions to the problems of admission and academic placement, teaching English as a second language, orientation and adjustment, and the alleviation of financial and employment problems are found in NAFSA manuals, guidelines and professional papers.

More recently, NAFSA has turned its attention to the long-term goals of international educational interchange and has begun to examine the problems facing foreign students returning home. The association has initiated a series of programs to assist foreign students in the process of readjustment following several years' sojourn in a foreign land. Focus on the "returning

home" issue has prompted NAFSA to examine academic questions more intently. The connection between a relevant academic program and a successful and productive career at home is clear, and only an alert and involved faculty can speak to these needs. It is in the context of these concerns that this symposium was planned. Its goal was to promote greater cooperation between foreign student advisers, admissions officers, teachers of English as a second language and members of professional associations and faculties. The symposium was initiated as a first step in the development of communication between professional societies and NAFSA on foreign student issues.

To this end, we make the following recommendations: the National Association for Foreign Student Affairs and professional societies should:

1. Encourage greater faculty involvement in all aspects of international educational interchange.

2. Encourage greater recognition for faculty who engage in teaching and research abroad, who teach their subjects in international contexts, and who act as academic advisers for foreign students.

3. Encourage greater faculty interest in the special academic needs of foreign students, and greater faculty involvement in fulfilling departmental and institutional responsibilities to foreign students and their home countries.

4. Work with accrediting organizations, colleges and universities to provide greater flexibility for foreign students, for example, in standardized admissions testing.

5. Work with faculty to offset problems arising when individual departments admit large blocks of foreign graduate students independently of central admissions processes.

6. Encourage the development of programs to maintain institutional and organizational communication with foreign alumni.

7. Undertake research on the relevance of U.S. education for foreign students.

8. Cooperate nationally and regionally in each other's activities, for instance, exchanging information for newsletters and cross-participation in workshops, conferences and symposia.

Appendix A

Total higher education and foreign enrollment in the U.S.[2]

Year	Total enrollment[1]	Foreign enrollment	Percentage foreign enrollment
1960-61	3,583,700	53,100	1.5
1969-70	8,066,200	135,000	1.7
1975-76	11,290,700	179,300	1.6
1976-77	11,121,400	203,100	1.8
1977-78	11,415,000	235,500	2.1

[1]Source: National Center for Education Statistics, Washington, D.C.
[2]Source: *Open Doors 1977-78*, Institute of International Education

Appendix B

Foreign students 1954-55 through 1977-78[3]

Year	Students reported	Institutions reporting
1954-5	34,232	1,629
1955-6	36,494	1,630
1956-7	40,666	1,734
1957-8	43,391	1,801
1958-9	47,245	1,680
1959-60	48,486	1,712
1960-1	53,107	1,666
1961-2	58,086	1,798
1962-3	64,705	1,805
1963-4	74,814	1,805
1964-5	82,045	1,859
1965-6	82,709	1,755
1966-7	100,262	1,797
1967-8	110,315	1,827
1968-9	121,362	1,846
1969-70	134,959	1,734
1970-1	117,976[1]	1,748
1971-2	114,024	1,650
1972-3	118,481	1,508
1973-4	125,116	1,359
1974-5	154,580[2]	1,908[2]
1975-6	179,344	2,261
1976-7	203,068	2,524
1977-8	235,509	2,738

[1]In 1970-1, immigrants and non-immigrants were separately counted and immigrants were excluded.
[2]In 1974-5 a simple post card method of obtaining the basic count was adopted and immigrants were excluded.
[3]Source: *Open Doors 1977-78*, Institute of International Education.

Appendix C

Origin of foreign students by continental subregion[1]

	1976-77		1977-78	
	No.	**%**	**No.**	**%**
East Africa	4,500	2.2	4,720	2.0
Middle Africa	770	0.4	750	0.3
Northern Africa	4,330	2.1	5,780	2.5
Southern Africa	830	0.4	990	0.4
Western Africa	15,410	7.6	17,310	7.4
Africa Total	**25,860**	**12.7**	**29,560**	**12.6**
East Asia	34,400	16.9	39,080	16.6
Middle South Asia	13,800	6.8	13,500	5.7
South East Asia	21,820	10.7	21,170	9.0
South West Asia	38,490	19.0	57,210	24.3
Asia Total	**108,510**	**53.4**	**130,970**	**55.6**
Eastern Europe	1,400	0.7	970	0.4
Western Europe	15,300	7.5	18,330	7.8
Europe Total	**16,700**	**8.2**	**19,310**	**8.2**
Caribbean	9,770	4.8	9,400	4.0
Central America	10,780	5.3	10,340	4.4
South America	16,690	8.2	19,100	8.1
Latin America Total	**37,240**	**18.4**	**38,840**	**16.5**
North America Total	**11,420**	**5.6**	**12,920**	**5.5**
Oceania	**3,150**	**1.6**	**3,810**	**1.6**
Stateless	**170**	**0.1**		
GRAND TOTAL	**203,070**	**100.0**	**235,510**	**100.0**

[1]Source: *Open Doors 1977-78*. Institute of International Education.

Appendix D

Countries of origin of most foreign students in U.S.[1]

1954-55	Number	%
Canada	4,655	13.6
China, Rep. of	2,553	7.5
India	1,673	4.9
Japan	1,572	4.6
Philippines	1,476	4.3
Colombia	1,301	3.8
Mexico	1,247	3.6
Korea, Rep. of	1,197	3.5
Iran	997	2.9
Venezuela	882	2.6
Greece	881	2.6
Israel	790	2.3
Germany, Fed. Rep. of	759	2.2
Cuba	717	2.1
United Kingdom	710	2.1
TOTAL	**21,410**	**62.6**

1964-65	Number	%
Canada	9,253	11.3
India	6,813	8.3
China, Rep. of	6,780	8.3
Iran	3,719	4.5
Japan	3,386	4.1
Hong Kong	3,279	4.0
Korea, Rep. of	2,604	3.2
Philippines	2,473	3.0
United Kingdom	1,959	2.4
Thailand	1,630	2.0
Cuba	1,565	1.9
Greece	1,543	1.9
Israel	1,539	1.9
Germany, Fed. Rep. of	1,504	1.8
Nigeria	1,382	1.7
TOTAL	**49,429**	**60.3**

1975-76	Number	%
Iran	19,900	11.1
Hong Kong	11,930	6.6
Nigeria	11,440	6.4
China, Rep. of	11,330	6.3
India	9,630	5.4
Canada	9,540	5.3
Thailand	7,400	4.1
Japan	7,070	3.9
Venezuela	4,680	2.6
Mexico	4,620	2.6
Korea, Rep. of	3,260	1.8
Vietnam, Rep. of	3,160	1.8
Pakistan	3,160	1.8
Saudi Arabia	3,030	1.7
United Kingdom	2,760	1.5
TOTAL	**112,910**	**62.9**

1977-78	Number	%
Iran	36,220	15.4
China, Rep. of	13,650	5.8
Nigeria	13,510	5.7
Canada	12,600	5.4
Hong Kong	12,100	5.1
India	9,080	3.9
Japan	9,050	3.8
Venezuela	7,420	3.2
Vietnam, Rep. of	6,640	2.8
Saudi Arabia	6,560	2.8
Thailand	6,340	2.7
Mexico	5,170	2.2
Korea, Rep. of	4,220	1.8
United Kingdom	4,050	1.7
Cuba	3,530	1.5
TOTAL	**150,140**	**63.8**

[1]Source: *Open Doors 1977-78*. Institute of International Education.

Appendix E

Foreign students from Organization of Petroleum Exporting Countries[1] (OPEC)

	1971-72	1976-77	1977-78
Algeria	47	770	1,680
Ecuador	468	710	800
Gabon	2		
Indonesia	583	1,090	1,820
Iran	6,365	23,310	36,220
Iraq	268	720	1,190
Kuwait	406	1,240	1,810
Libya	494	1,610	2,090
Nigeria	2,894	11,870	13,510
Qatar	36	200	180
Saudi Arabia	821	4,590	6,560
U A E	5	180	270
Venezuela	1,703	5,750	7,420
OPEC Total	**14,090**	**52,040**	**73,550**
Total Foreign Student Enrollment	**114,024**	**203,068**	**235,509**
OPEC as a % of World Total	**12.4%**	**25.6%**	**31.2%**

[1]Source: *Open Doors 1977-78*. Institute of International Education

Appendix F

U.S. Institutions with 1,000 or more foreign students, 1977-78[1]

Rank		Number
1	Miami-Dade Community College	3,456
	University of Southern California	3,180
	University of Wisconsin, Madison	2,345
	Indiana University, Bloomington	2,244
5	University of Michigan, Ann Arbor	2,033
	Howard University	1,884
	University of Washington	1,840
	Harvard University	1,829
	University of Texas, Austin	1,805
10	University of Houston, Main Campus	1,789
	New York University	1,711
	Columbia University, Main Division	1,700
	George Washington University	1,645
	Stanford University	1,627
15	University of Minnesota, Minneapolis and St. Paul	1,613
	Texas Southern University	1,580
	University of Pennsylvania	1,550
	University of California, Berkeley	1,494
	Massachusetts Institute of Technology	1,477
20	Louisiana State University, Baton Rouge	1,465
	University of California, Los Angeles	1,448
	University of Kansas, Lawrence	1,367
	American University	1,342
	University of Illinois, Urbana	1,337
25	Michigan State University	1,322
	University of Oklahoma, Norman	1,265
	Brigham Young University, Provo	1,195
	Ohio State University	1,188
	Iowa State University	1,186

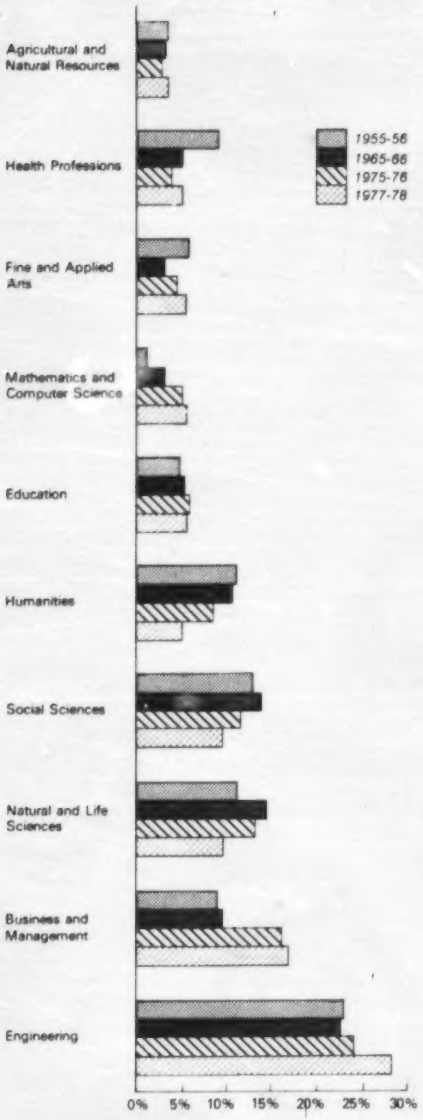
30	University of Texas, Arlington	1,176
	Oklahoma State University, Main Campus	1,156
	University of Hawaii at Manoa	1,153
	Montgomery College, Rockville	1,149
	Southern Illinois University, Carbondale	1,146
35	State University of New York at Buffalo	1,119
	University of Southwestern Louisiana	1,102
	Boston University	1,100
	Northrop University	1,075
	Cornell University	1,074
40	Pennsylvania State University, Main Campus	1,050
	University of San Francisco	1,022
	Purdue University	1,012

These 42 institutions represent 27.3% of the foreign student population for the 1977-78 academic year.

[1]Source: *Open Doors 1977-78*, Institute of International Education

Appendix G

Fields of study



Source: *Open Doors 1977-78*. Institute of International Education

Appendix H

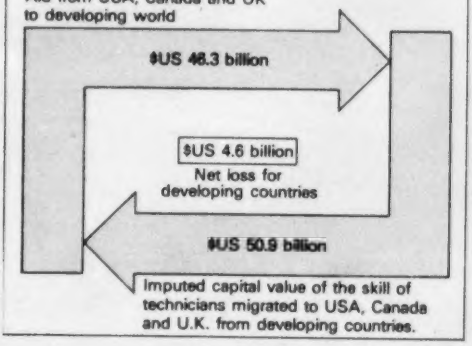
Distribution By Fields Of Study[1]

	1977-78	% Distribution	1976-77	% Distribution
Engineering	67,870	28.8	48,990	24.1
Business and Management	39,540	16.8	34,810	17.2
Natural and Life Sciences	23,360	9.9	22,980	11.3
Social Sciences	23,310	9.9	20,890	10.3
Education	12,470	5.3	12,030	5.9
Mathematics and Computer Science	12,300	5.2	9,610	4.7
Fine and Applied Arts	12,240	5.2	8,930	4.4
Humanities	11,810	5.0	14,370	7.1
Health Professions	10,820	4.6	11,840	5.8
Agriculture	8,660	3.7	6,490	3.2
Other	13,130	5.6	12,130	6.0
		100.0		**100.0**

[1]Source: *Open Doors 1977-78*. Institute of International Education

Appendix I

The reverse transfer of technology: the "brain drain" 1960-1972.


Aid from USA, Canada and UK to developing world
$US 46.3 billion
$US 4.6 billion
Net loss for developing countries
$US 50.9 billion
Imputed capital value of the skill of technicians migrated to USA, Canada and U.K. from developing countries.

Source: UNCTAD Secretariat. Reprinted from *Rio: Reshaping the International Order*. E. P. Dutton: 1976. p. 36.

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